



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/601,788	08/08/2000	Hiroki Koyama	2282-137P	2183

2292 7590 10/22/2003

BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER

NGUYEN, CAM N

ART UNIT PAPER NUMBER

1754

DATE MAILED: 10/22/2003

18

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/601,788

Applicant(s)

Koyama et al.

Examiner

Cam Nguyen

Art Unit

1754



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 8/12/03 (an amendment/response)
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-17 is/are pending in the application.
- 4a) Of the above, claim(s) 15-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Aug 8, 2000 is/are a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some\* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other:

Art Unit: 1754

### **DETAILED ACTION**

1. Applicants' remarks and amendments, filed on August 12, 2003, have been carefully considered. Claims 1, 9, & 15 have been amended.

Claims 1 & 3-17 remain pending in this application.

2. This application contains claims 15-17 which drawn to an invention nonelected with traverse in Paper No. 18. A complete reply to the final rejection must include cancelation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

### ***Claim Objections***

3. Claims 3, 5, & 7 are objected to because of the following informalities:

A. In claim 3, line 2, "catalyst" should be --the catalyst--.

B. In claim 5, line 2, "wherein bulk density is" should be --wherein the catalyst having a bulk density of--.

C. In claim 7, line 3, "phosphorous" should be --phosphorus--.

Appropriate correction is required.

Art Unit: 1754

***Claim Rejections - 35 USC § 112 (First Paragraph)***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1 & 3-11 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1 is amended to now recite "wherein the pore volume of all pores determined by the mercury intrusion porosimetry method is 0.87 cm<sup>3</sup>/g or greater". There is no support for recitation of "of all pores" in the claim since applicants' specification does not define "the pore volume determined by the mercury intrusion porosimetry method is 0.87 cm<sup>3</sup>/g or greater" being for all of the pores, rather it is a preferred range for "a pore volume of pores having a pore diameter of 50 nm or larger determined by the mercury intrusion porosimetry method is 0.32 - 1.1 cm<sup>3</sup>/g".

***Claim Rejections - 35 USC § 112 (Second Paragraph)***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 1754

7. Claims 1 & 3-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. In claim 1, line 8-10, recitation of "the pore volume of all pores determined by the mercury intrusion porosimetry method is 0.87 cm<sup>3</sup>/g or greater" is still confusing. It is unclear as to what pore volume of pores applicants referring to.

B. Claim 9 recites the limitation "a metal deposition" in line 2. There is insufficient antecedent basis for this limitation in the claim. Since applicants' claim 1 does not mention anything about "deposition of the metal", it provides no basis for recitation of "a metal deposition".

C. Claim 9 recites the limitation "a fresh catalyst" in line 2. There is insufficient antecedent basis for this limitation in the claim. Since applicants' claim 1 does not mention anything about "fresh catalyst", it provides no basis for recitation of "a fresh catalyst".

It is suggested that applicants amend the claim to recite "...wherein the active metal is 70 g or more ...".

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior

Art Unit: 1754

art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Simpson (U.S. Pat. 4,879,265).

Simpson discloses a process of preparing a catalyst by impregnating the catalytically active metal components with any porous amorphous refractory support particles including gamma alumina (see col. 5, ln 42-51). The support is having a particle size of less than about 100 microns (see col. 5, ln 67- col. 6, ln 1). The total pore volume of the amorphous support is usually from about 0.2 to 2.0 cc/g (see col. 6, ln 41-43). The extruded particles are taught to be having a cross-sectional shape (see col. 6, ln 13-33), thus suggests molding of the support particles. In view of the teaching at col. 6, ln 3-12, the support particles in the form of alumina gel is heat treated to convert into gamma alumina, thus suggests calcining. Simpson further discloses impregnating the active metal components on the support particles to obtain a catalyst (see col. 6, ln 33-35). After impregnation, the support is dried and calcined to produce a catalyst containing active components (see col. 7, ln 25-27).

Simpson discloses a particle diameter of 100 microns, but does not indicate whether the disclosed diameter being a mean particle diameter as applicants claiming. However, it is considered *prima facie obvious* to one of ordinary skill in the art that the mean particle diameter of the support particles disclosed by Simpson would be within the claimed range (of from 10 to

Art Unit: 1754

200  $\mu$ m) since the disclosed particle diameter falls within the claimed range (see Simpson at col. 5, ln 67- col. 6, ln 1).

10. Claims 13 & 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simpson (U.S. Pat. 4,879,265), as applied to claim 12 above, and further in view of Asaoka et al., "hereinafter Asaoka", (U.S. Pat. 4,562,059).

Simpson discloses a process of preparing a catalyst as described above, except for the following difference.

Simpson does not specifically indicate in the reference that his gamma alumina is obtained by calcining the boehmite powder as applicants claiming. However, such gamma alumina as prepared is conventional and known by Asaoka, as a useful carrier having a large surface, excellent mechanical strength and ability of support catalytic metals uniformly on its surface (see Asaoka at col 1, ln 7-17).

#### ***Response to Amendment/Arguments***

11. Applicants' amendment/response filed on 8/12/03 have been carefully reconsidered, but not deemed persuasive in view of the new grounds of rejections above and the following reasons.

Applicants urged, that "applicants respectfully inquire as to why the Examiner did not appear to find the claim indefinite at the Interview but in the most recent Office Action does find it indefinite. In the "Response to Amendment/Arguments" section of the Office Action, the Examiner does not really indicate why this phrase is found to be indefinite" (applicants' response

Art Unit: 1754

page 8, last paragraph). This is noted. First, in applicants' original claim 2, applicants recited "wherein the pore volume determined by the mercury porosimetry method is  $0.87 \text{ cm}^3/\text{g}$  or greater". This recitation was acceptable as it was in the dependent claim 2 because it further limited "the pore volume of pores having a pore diameter of 50 nm or larger determined by the mercury porosimetry method is  $0.32\text{-}1.1 \text{ cm}^3/\text{g}$ " of claim 1. Then, applicants incorporated the limitation of claim 2 into claim 1, which was also acceptable as a preferred range for the "the pore volume of pores having a pore diameter of 50 nm or larger determined by the mercury porosimetry method is  $0.32\text{-}1.1 \text{ cm}^3/\text{g}$ " of claim 1. However, during the Personal Interview conducted on March 12, 2003, the examiner was explained by the attorney that "the pore volume determined by the mercury porosimetry method is  $0.87 \text{ cm}^3/\text{g}$  or greater" is for all of the pores and not a narrow range within a broad range or a preferred range. Therefore, the examiner indicated to the attorney that it would have been clearer in claim 1 if applicants recited "the pore volume determined by the mercury porosimetry method is  $0.87 \text{ cm}^3/\text{g}$  or greater" is for all of the pores. Now that applicants amended claim 1 to include "of all pores". In view of applicant's specification the bottom of page 25 thru the top of page 26, there are two different porosimetry measurements: the first measurement is measured by the nitrogen adsorption method and the second measurement is measured by the mercury intrusion porosimetry method. Also, applicants' specification page 4, last paragraph, "a pore volume determined by the mercury intrusion porosimetry method of  $0.87 \text{ cm}^3/\text{g}$  or greater" is a preferred range not for "all of the pores". Therefore, it is considered applicants' specification does not provide support for



Art Unit: 1754

recitation of "the pore volume of all pores determined by the mercury intrusion porosimetry method of 0.87 cm<sup>3</sup>/g or greater".

With respect to applicant's urging regarding the Simpson '265 reference and Asaoka '059 reference over the instant method claims 12-14 is also noted. Applicants urged, that "neither Simpson '265 nor Asaoka '059 disclose or suggest a crystalline  $\gamma$ -alumina" (applicants' response page 10, first paragraph). In response to applicants' argument, the instant method claims 12-14 do not include any limitation on  $\gamma$ -alumina being "crystalline"; therefore, the claim is not required that the claimed " $\gamma$ -alumina" have to be "crystalline".

Applicants' arguments did not find persuasive, thus the rejections are maintained.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 1754

**Conclusion**

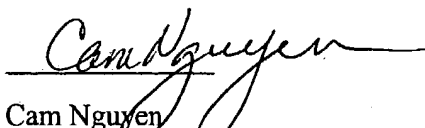
13. Claims 1 & 3-17 are pending. Claims 1 & 3-14 are rejected. Claims 15-17 remain withdrawn due to nonelected (distinct) invention. No claims are allowed.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Cam Nguyen, whose telephone number is (703) 305-3923. The examiner can normally be reached on M-F from 8:30 am. to 6:00 pm, with alternative Monday off.

The appropriate fax phone number for the organization where this application or proceeding is assigned is <sup>(703) 872-9306</sup> ~~(703) 872-9310 (before finals) and (703) 872-9311 (after final).~~

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the ~~receptionist~~ <sup>571-272-1700</sup> whose telephone number is ~~(703) 308-0661.~~

Nguyen/cnn *cnn*  
October 16, 2003

  
Cam Nguyen  
Primary Examiner  
Art Unit: 1754